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Examination of a Distance Education Course Through the Lens of Activity Theory

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Abstract

Being a complex social process, open and distance learning includes many different dynamics and interaction elements. Activity theory provides a comprehensive framework for understanding complex human interactions and the lack of appropriate methods to address the complexity of online learning environments. The main purpose of this study is to define the seven elements of interaction (subject, object, tools, rules, community, division of labor and outcome) in an online course within the framework of activity theory. In order to reach this purpose, a qualitative study has been carried out by using exploratory case study model. As a result of this study, the general activity system of the online course was identified. According to the activity system, the subject refers to the learners who attend the online course, the tools are all learning materials, learning environments and instructors in the online course, the rules incorporate all lawfully restricting codes, regulations and guidelines in the course along with the community norms, network standards and the rules determined by the learners during the synchronous courses. The community in the course is made up of all the learners who attend the online course, the instructor, forum moderators, technical staff and OEF (Open Education Faculty) management. The division of labor has been observed to be scattered among the students, the instructor, the administration and the support staff. Ultimately, the object is to pass the course and the outcomes are the ones that the course offers in its educational plan.

Keywords: *open and distance education, activity theory, online learning environments, interaction*

INTRODUCTION

The developments in the field of technology contribute to the improvements and diversification of research topics in the field of Open and Distance Learning (ODL). Research topics shifting to the learner-centered approach have begun focusing not only on success but also on learner characteristics, perceptions and patterns of interaction and how they all contribute to the overall learning environment (Simonson et al., 2014). Especially in recent years, when ODL studies are examined, it is seen that studies on interaction in learning environments gain more importance (Xiao, 2017; Moore et al., 2016; Anderson et al., 2015; Huss et al., 2015; Wei et al., 2015; Croxton, 2014; Mozhaeva,

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2014). Online learning, which is one of the ODL models with learner, instructor, content and interface interactions, has become a widespread model after the development of computer networks and Internet. Currently, it is a model that is used at higher education institutions such as Anadolu University to deliver both face-to-face and distance education.

Serving more than one million distance learners, Anadolu University offers a wide range of learning materials combined with new technologies in addition to textbooks. Anadolum eKampus system, which presents the existing online learning materials on a single platform, was first offered to the distance learners in the spring term of 2015-2016. This system, which has the potential to provide learner-learner, learner-instructor and learner-content interactions at the highest level, facilitated by the learning management system called Blackboard.

The theories currently being used in the field of education to examine the interaction and the impact of this interaction on learners in online environments, may be incomplete in analyzing the unique structure and components of these environments. Based on the concept of "mediated action", which is rooted in Leontev (1978) and Vygotsky (1978) and later expanded by Engestrom (1987), activity theory provides a comprehensive framework for understanding complex human interactions and the problem of the lack of holistic methods to address the complexity of online learning environments. Activity theory, as a methodological tool, can be used to reveal key dynamics of the reality created in complex and technology mediated social environments, to point out conflicts and visualize the activity environment (Kaptelinin and Nardi, 2006). It is a sociocultural theory that allows researchers to examine individuals in a wide range of activities rather than examine them separately from their environment (Kuutti, 1996). Therefore, the framework of activity theory provides a useful perspective for understanding the social structure of online learning environments (Baran and Çagiltay, 2010; Engestrom, 1999; Baek, Evans and Barab, 2004).

Engestrom (2014) mentions three generations in the theory of activity. The first generation, which was inspired by Vygotsky's (1978) ideas, created the idea of "mediation". According to Vygotsky, the individual does not respond to his environment directly or with innate reflexes, cultural paths, tools and signs mediate the relationship between the individual and his environment. In the second generation, Leont'ev (1978) came up with "three layers of an activity" as *object/motive, goal* and *conditions* and added the community dimension to the theory. Third-generation activity theory has added elements of community, rules, and division of labor to this structural perspective (Engestrom, 2014). This extended activity theory is known as an activity system (Mwanza and Engestrom, 2003). Mwanza and Engestrom (2003) developed the activity system triangle model by focusing on the mediation-type relationships with other elements in the activity system (Figure 1.1).

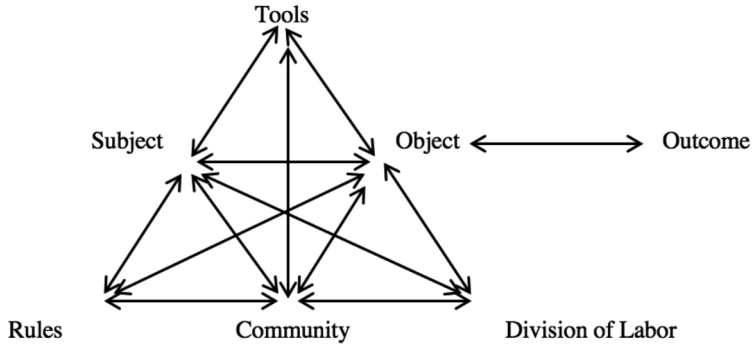


Figure 1. Third Generation Activity Theory (Engestrom, 1999)

In this model of activity system, artifacts are important for human performance and are integral parts of it (Kaptelinin and Nardi, 2006).

An *activity* refers to all efforts towards interdependent, stable, long-term, predetermined or natural, but identifiable goals and objectives (Rochelle, 1998, cited in Karakus, 2015, p.380). The basic elements of any activity system include seven elements. The *subject* of an activity system is the person or group whose perspective is taken in the analysis of the activity. The *object* is the situation or problem area that causes the subject to participate in the activity and motivates the partners of the activity. The object refers to meeting a requirement. It explains why an activity exists. What distinguishes one activity from another is its object. *Tools* include all abstract and concrete tools that the subject interacts with during the achievement of the object. These can be concrete tools such as a book or a computer, as well as internal, symbolic and psychological tools such as the language used. In an activity system, the subject is seen as part of a *community*. Yamagata-Lynch (2010, p.2) defines the community as "the social group to which the subject belongs during the activity". *Division of labor* is defined as the distribution of duties and roles, authorities and responsibilities among the members of the community. *Rules* refer to "open and confidential regulations" (Engestrom, 1990, p.79). In a way, the rules that can be perceived as social texture include both the rules that continue in the society and developed later (Karakus, 2015, p.382). Finally, *outcome* is abstract or concrete products that result from the activity system.

It is necessary to examine the interactions of the learners who have access to the courses they have taken on Anadolum eKampus system, with a holistic approach, in order to provide a better understanding of the system. In the context of open and distance learning, it is considered that the activity theory provides a fitting holistic approach in complex social settings of online learning environments.

The Purpose of the Study

The overall aim of this study was to define the seven interaction elements (subject, object, tools, rules, division of labor and community) in an online course offered by Anadolu University to distance learners within the framework of activity theory.

METHOD

This study has adopted a qualitative research approach. The case study model rather than other potential qualitative designs was the best to use to examine the complexity and nature of a learning environment in its natural setting (Farquhar, 2012). The exploratory case study approach allows the researcher to ask multifaceted questions as it is based on the design structure described by Yin (2014).

The Context of the Study

This study was conducted in the context of TBT I (Temel Bilgi Teknolojileri I - Basic Information Technologies I) course offered to open and distance learners on the platform of Anadolum eKampus system by Anadolu University Open Education Faculty in the fall semester of 2017-2018 academic year.

Data Collection

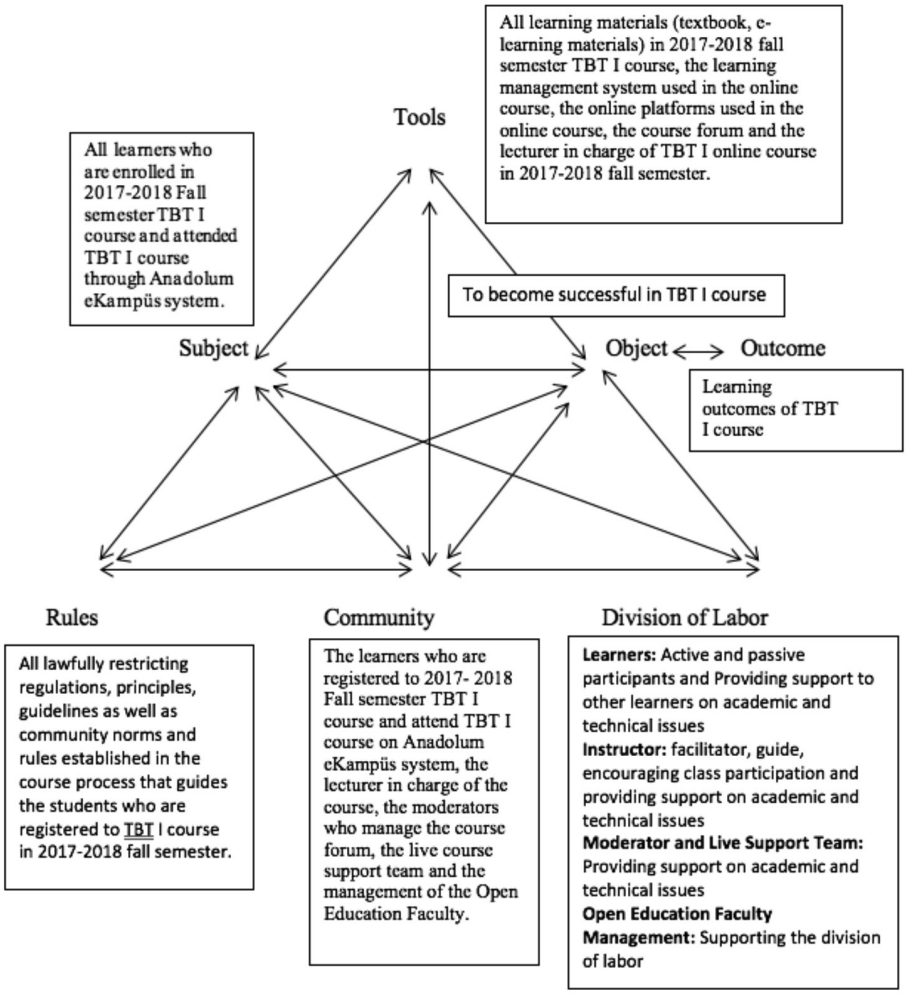
In order to identify the interaction elements in the online course according to the framework of activity theory document analysis and semi-structured interview have been employed. Therefore, there are two main sources of data. The first one is a cluster of documents including TBT I course content at Anadolum eKampus online system, Anadolu University Open Education Faculty official website, TBT I live course (e-seminar) videos, live course messaging transcripts, Learning Activities Reports of TBT I course. In order to collect data from the document sources, a document analysis form was used. The form was prepared according to the elements of activity theory. The second source is the semi-structured interview with the course instructor. The interview form included eight main questions and follow-up questions and devised according to activity theory elements.

Data Analysis

The documents were analyzed using activity theory framework. The analysis of the interview transcription was conducted using descriptive analysis method. The transcription was labeled after the predetermined coding scheme. The coding scheme included probable content for each activity theory element. When there was new or unforeseen data, new codes and labels were added.

FINDINGS

As a result of the examinations, the general activity system established for the 2017-2018 Fall Term TBT I learners is given below:



When the video recordings and messaging transcripts in live courses were analyzed, it was found that the learners have created rules to regulate their own learning environments by warning one another during the first weeks of live courses. However, it was also found that the learners help and support one another on academic and technical issues. These findings were in line with the findings of semi-structured interview with the instructor. In addition to this, it was observed that the main object of the learners participating in TBT I course was to pass the course instead of internalizing the course content. Additionally, it was found that the learners were trying to form sub-communities in the course. And the most remarkable finding from the learning analytics was that the rate of female students attending the course (61%) was higher than the rate of male students (49%).

DISCUSSION AND CONCLUSION

As a result of this study, the general activity system of the online course was identified. According to this activity framework the subject refers to students who attend the online course, the tools are all learning materials, learning platforms and instructors in the online course, the rules include all the legally binding codes, regulations and guidelines in the course alongside the network standards, principles and the rules dictated by the students during the synchronous courses. The community in the course is made up of all the learners who attend the online course, the instructor, forum moderators, technical staff and OEF management. The division of labor has been seen to be dispersed among the students, the instructor, the administration and the support staff. Ultimately, the object is to pass the course and the outcomes are the ones that the course offers in its educational plan.

In addition to the activity system, the fact that female students participated more in the online course is in accordance with the studies that reveal that women are more active and successful in online learning environments (Amparo, Smith & Friedman, 2018; Price, 2006).The most interesting finding about the rules is that the learners have created rules to regulate their own learning environments by warning each other during the first weeks of live courses. From this point of view, it is concluded that although in open and distance learning individuality and autonomous learning are emphasized, collectivist cultural characteristics such as group learning and progression have emerged in the context of TBT I online course. It was also concluded that the aim of the learners participating in TBT I course is to get passing grades from the course. In terms of object and outcome dimensions, it was seen that the learners participated in the live courses and the system in a target-oriented manner, and they cared more about whether the subjects would come up in the exam or not rather than using the information given in the course in their lives.

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